

ABSTRACT OF THE DISCLOSURE

Positive and negative electrode plates, after being dried, are layered alternately upon one another with intervening separators therebetween to constitute electrode plate groups. These electrode plate groups are transferred in succession from one to another of a plurality of preliminary chambers, which are respectively constructed to be able to create vacuum of various levels and arranged so that the vacuum level is gradually increased, and finally introduced into a processing chamber in which the vacuum level is highest, where the welding of collector plates to the electrode plate groups is performed with an electronic beam irradiating device. After that, the electrode plate groups are taken out through a post-processing chamber.